

# Development of Financial System and Economic Growth: An Empirical Evidence from Nigeria.

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## ABSTRACT

The chief aim of the study was to ascertain the relationship between banking system development and stock market development (financial system development) and economic growth. Secondary data relating to market capitalization (MCP), value of shares traded (VLT), government expenditure (GOV) Investments (INV), Inflation (INF), real GDP per capita and credit to the private sector (PSC) were extracted from CBN Statistical Bulletins and used for the study. The Cointegration Technique was used for the data analysis. The technique comprises of ordinary Least Square regression (OLS) Unit Root Test (URT), Error Correction Mechanism (ECM) and the Augmented Dicky Fuller Test Approach to establish the short run and the long run results. The results revealed that market capitalization, has short run and long run positive impact on economic growth; that credit to the private sector by banks also has a positive impact on GDP; that the value of share traded in stock market, the turnover ratio, the investments all have positive influence on economic growth; that inflation and government expenditure are strong policy variables in the long run. On a final note, the financial system can be considered as a tool for short run and long run economic growth.

**Key words:** *Development, Financial System.*

## INTRODUCTION

The components of the financial system in Nigeria and other nations are made up of the stock market and the banking sector, it has long been recognized that the financial systems and financial markets play an important role in a country's economic growth and development. (Claus, Jacobsen, and Jera, 2004). Starkey, (2010), underscored the fact that the financial systems performs the function of mobilizing savings, allocating capital, providing an efficient payment system, monitoring and exerting corporate governance as well as ameliorating risk. The same view was held by Aziakpona (2008). The extent to which a nations financial system is developed is a key determinant of the ability of the system to effectively and efficiently perform these core functions. Theoretical and empirical development of the financial system is pivotal and critical for resolving agency and information asymmetry challenges as well as reducing transaction costs (Levine and Zevous, 1998, Good heart, 2005, Ray, 2006 and Hermes and Len sink, 1996).

However, the Nigerian financial system is to a large extent remains underdeveloped due to the adoption of financially repressive policies, political corruption/ poor macroeconomic management, bank malfeasance, giving rise to insolvencies., low saving rates, and insufficient resource allocation. The import of the underdevelopment has meant that the Nigerian economy struggles to accelerate economic growth and reduce poverty. Studies carried out by scholars like Ogun (1996), Ibrahim (2012) and Adelakan (2010) have reported that there exist a strong positive nexus of financial system development on economic growth. In the light of these reports, there exists a strong case for the speedy promotion of financial system development in Nigeria.

In the course of executing the core functions, the financial system positively influences factor accumulation, innovations and plays a crucial role in understanding variation in growth since economic growth is often discontinuous. (Allen and Aura, 2004), from a theoretical view point. The theoretical literature, also distinguishes between the effects of these key functions of economic performance when performed by financial

intermediaries banks and when performed by financial market (Stock markets) (Starkey, 2010, and Aziakpono, 2008). This issue has gained considerable attention and its commonly termed the 'bank based' versus the 'market –based' debate contributors to the debate explored the separate effects of the banking system and the stock market on the promotion of economic growth and investigate issues such as “Do financial systems perform different functions or are they doing the same things in different ways?” Can one say that a bank based system is better than a market based system (Allen and Oura, 2014), Levine, (2002), submitted that there exists no uniform definition of what constitute a bank-based system or a market based system.

However, a bankbased system principally refers to a financial system dominated by the banking sector performing the key growth enhancing functions, while a market based system is characterized by the stock market predominantly stimulating economic growth. (Beck and Levine, 2002).

Of the smaller body of research, which incorporates both banking system and stock market development measures contrasting results appear with little consensus existing regarding the roles played by each towards economic growth. Given the above circumstances, this study examines empirically the nature (positive or negative) and direction (unidirectional or bidirectional) of the relationship between financial system development which is measured as banking system and stock market development and economic growth in Nigeria.

## STATEMENT OF THE RESEARCH PROBLEM

Financial system development has assumed a developmental role in finance and economics across the globe as a result of the impact it has exerted on economic activities in both developed and developing nations. For sustainable growth and development, financial system ensures that funds are effectively mobilized and allocated to enable business and economics harness their human, materials and management resources for optimal productivity.

The two major components of the financial system are the stock markets and banks. These components help to promote efficiency in capital allocation. In most developing nations, most of the studies on the relationship between financial development and economic growth gave more attention to the role of the banking sector and considered it as the only organized sector, while neglecting the potential role of the stock market for efficient allocation and risk sharing in a liberalized financial market. This, according to Caporale and Pittis (1997) may produce misleading results because the omission of a relevant variable from a system might invalidate causality inference. Beck and Levine (2004), Vasakidis and Adamopoulos (2009), Yucel (2009) are now modeling the relationship between financial development and economic growth by simultaneously utilizing banking system and stock market development in their empirical studies. Beck and Levine (2004), pointed out that any examination of stock market impacts on economic growth, should simultaneously consider the impacts of the growing intermediating sector. They further argued that omitting a stock market variable makes it difficult to appropriately examine bank development and economic growth when controlling for stock market system. Of the Nigeria studies undertaken such as Akinlo and Akinlo(2007), Agu and Chukwu (2008), Ndako(2010), Adelakun (2009), and Adeniran and Udejaja (2010) favour the usage of multiple banking development measures. Hence, there are scanty available time series data studies of finance growth relationship in Nigeria employing both bank and stock market development measures in their studies Thus, the inclusion of data of the stock market as part of the indicators of financial development could provide better insight on the nature and direction of the relationship between financial development and economic growth in Nigeria. This study attempt to fill this Lacuna. As alluded to earlier, adopting a single aspect of the financial system, when both the banking sector and stock market are fairly developed, may hinder the discovery of the overall effects of financial development on economic performance, which in the concept of this research is of critical importance to the Nigerian government. The largely underdeveloped nature of the Nigerian economy implies that the Nigerian government is under pressure to improve and strengthened the drivers of economic growth. In order to stimulate development to formulate optimum growth enhancing economic policies, expert knowledge of the relative importance of the banking sector and stock market in the financial system is vital. Therefore, the form of financial structure that is most conducive for economic growth must be determined in order to aid the formulation of robust and sound economic policy for a country. Policy intervention should be tailored towards the promotion of the specific financial structure that more significantly contributes to growth rather than promotion of a second best alternative system. Policy promoting the alternative system may be misplaced and fail to raise economic growth. (Chakraborty and Ray, 2006).

Against this backdrop, this study will investigate the relationship between the financial system development and economic growth in Nigeria, adopting both banking system and stock market development indicators.

More specifically, the study seeks to provide answers to the following research questions:

- (i) Does banking system development and stock market development influence economic growth in Nigeria?
- (ii) What is the relationship between private sector credit and economic growth in Nigeria?
- (iii) What is the relationship between liquid liabilities ratio and economic growth in Nigeria?
- (iv) Does market capitalization influence economic growth in Nigeria?
- (v) What is the relationship between turnover ratio and economic growth in Nigeria?
- (vi) Does value of traded shares affect economic growth in Nigeria?
- (vii) What is the direction of casualty which prevail between the various measures of financial development and economic growth in Nigeria

### **Objective of the Study**

The chief aim of the study is to determine the impacts of the financial system development on economic growth in Nigeria based on the relative contribution of the banking system and the stock market.

The subsidiary objectives include:

- i. to determine the relationship between private sector credit and economic growth: (GDP)
- ii. to determine the relationship between liquid liabilities ratio and economic growth in Nigeria (GDP)
- iii. to examine the relationship between market capitalization and economic growth (GDP) in Nigeria
- iv. to examine the relationship between turnover ratio and economic growth (GDP) in Nigeria
- v. to examine the relationship between value of traded shares and economic growth in Nigeria
- vi. to determine the direction of causality which exists between the various measures of financial development and economic growth in Nigeria.

### **Scope of the Study**

This study is a longitudinal survey in nature. The annual data of the banking and stock market as components of the financial system will be examined. Such data are usually time series in nature. The study covered data in variables of key interest spanning over a period of thirty-three years (from 1980-2014). The choice of the period was sequel to the unavailability of data on Nigerian capital market measures prior to 1980.

### **Research Hypotheses**

- $H_{O1}$  Liquid liabilities ratio has no significant effect on economic growth in Nigeria.
- $H_{O2}$  private sector credits have no significant effect on economic growth in Nigeria.
- $H_{O3}$  Market capitalization has no significant impact on economic growth in Nigeria.
- $H_{O4}$  Turnover ratio has no significant impact on economic growth in Nigeria
- $H_{O5}$  Values of shares traded on stock exchange has no significant impact on economic growth in Nigeria

$H_{O6}$  Economic growth does not Granger cause financial development in Nigeria or financial development does not granger cause economic growth in Nigeria.

### **Significance of the Study**

The key role of the financial system to enhancing economic growth con not be underestimated. It is expected therefore that the findings of the study will robustly enrich the understanding dynamics finance growth nexus in Nigeria are thus useful for policy makes and practitioners.

### **Some Relevant Literature Review**

In order to devise a concentrate perspective for the study, the relationship determined by past studies between financial development and economic growth needs be examined. In line with this focus, there stems the need to review the theoretical and empirical literature of past studies.

Like other developing nations of the world, Nigeria has under taken financial sector reforms pursuant to the growth of the economy. The reforms have evolved in sharp response to the challenges posed by the development in the system such as systematic crises, globalization, technology, legal innovation and financial crisis rocking the economy. The reforms often seeks to act proactively, to strengthen the weak system, prevent systematic

crisis, strengthen the market mechanism and ethical standard. Financial reforms in the banking sector in Nigeria dates back to 1952 when the banking ordinance was enacted. The deregulation of the banking system in 1986 for the structural Adjustment Programme(SAP), saw a policy shift from direct control to a market based financial system which is workable especially, as regards monetary management and asset holding capabilities of the banking institutions. Numerous reforms followed including the consolidation in the banking system. The stock market has also witnessed some reforms over the years especially as regards the capital base requirement of operators, the operational and ethical standards of the institutions and the modalities of market mechanism. The great and serious controversy is whether the financial system reforms both in the banking sector and the capital market have actually translated to increase in real GDP per capita in Nigeria.

### **Concept of Economic Growth**

Expansion of economies with the intent to improving the welfare of the citizenry is a desirable goal. This explains why economic Literature is repeated with theories and studies investigating variables required by economies to achieve sustainable growth. Byrns and stone (1992) confirmed that economic growth is one of the macro-economic growth of government; since most governments work hard at growing their economies in order to stem unemployment, increase output and improve industrial capacity utilization. It is infact a key policy concern to achieve high sustainable and equitable growth and thereby improving the standard of living which is commonly proxied as level of real GDP per capita.

### **Financial Sector growth and Development**

Different studies have employed a wide range of indicators of financial sector development. According to Apergise et al (2007) there is an interesting and controversial views of finance-growth nexus that the magnitude of financial development's impact on growth varies depending on the type of financial indicator employed and the level of the country's development. Based on the existing literature on various indicators of the financial sector development according to Livine, Lin and Chu (2000), the focus here is on two groups of financial sector development measures. These groups include the banking system development measures and stock market development. These two measures (BD) and (SD) shall be utilized to indicate the degree of banking system development in Nigeria based on two size aspects of the banks. These BD measures include the liquid liabilities ratio and the private sector credit ratio. The study also utilizes the three SD measures in order to account for the level of stock market development based on size and liquidity aspect of the market. The market capitalization ratio the turnover ratio and the value of shares traded ratio shall be employed as the three SD measures.

### **PRIVATE SECTOR CREDET RATIO**

World Bank (2009) asserted that private sector credit is the most comprehensive indicator of the activities of the deposit money banks and it is calculated as the amount of domestic credit allocated to the private sector by the banking sector divided by GDP. It indicates the extent to which the banking sector finance the economy and more specifically the extent to which banks finance private investments and private sector development. Therefore this ratio not only indicates banking system size but also importance of banking system to the private sector of an economy. According to World bank domestic credit provided to the private Sector includes financial resources which establishes a claim for repayment such as loans, purchased of non equity securities, trade credits and other accounts receivables hence this domestic credits excludes credit extended to government and public enterprises (Beck and Levine, 2004). It is expected to have a positive impact on economic growth. This measures of banking sector is critical to poverty reduction and for financing consumption, production and capital formation which helps to stimulates aggregate demand and in turn advance economic activities (World Bank, 2008). Becks, Levin, Loayza(2008) affirmed that this proxy is superior to other measures of financial intermediaries development because it excludes credit to public sector and better reflect the extent of efficient resources allocation.

### **(ii) LIQUID LIABILITIES RATIO**

This is utilized as an indicator of the size of the banking system, taking as the size of the financial intermediaries relative to the size of the economy. It is otherwise known as measure of financial deepening. The ratio measures the degree of monetization in the economy as well as the depth of the banking sector while it as so shows an expansion of payments and saving functions. This measure provides an indication of the banking system ability to increase lending. The liquid liabilities ratio is calculated as  $M_2$  – which is broad money supplied (currency plus demand and interest bearing liabilities of banks and non-bank financial intermediaries) divided by GDP. Higher liquid liabilities ratio indicates larger banking sector where the size of the banking system is positively

related to the provision of financial services and thus to growth (World Bank, 2004). Therefore a positive relationship is expected between liquid liabilities ratio and growth in economy. The empirical studies of Agu and Chukwu (2008), Aslam (2008), and Aziakpono (2008) affirmed that liquids liabilities ratio have positive impact on economic growth.

### **(iii) Market Capitalization Ratio**

Osazee (2000), asserted that market capitalization is a function of the prevailing market price of quoted equities and the size of their issued and paid up capital. Market capitalization is seen as the most important measures for assessing the size of capital market. Market capitalization is thus computed as share price multiplied by total number of shares outstanding divided by GDP. The ratio is used as a measure of stock market size. The idea of the indicator is the larger the market size, the higher the ability to mobilize capital and diversity risk (N'zue, 2006). In terms of economic significant, the assumption is that market size and the ability to mobilize capital are positively correlated (Osinubi, 2001).

Osamwonyi (2005) found that market capitalization is positively related to GDP at current cost. Senbet (2008) in his study shows that market capitalization and the value of shares traded relative to the size of the economy are the channels through which African stock markets influence economic growth (GDP).

### **(iv) Total Value Traded Ratio**

This is the total value of shares traded on the floor of the stock Exchange divided by GDP. Total value traded ratio and turnover ratio are the most used measures to evaluate the stock market liquidity. Therefore the ratio of value traded relative to GDP is an indicator of the activity and liquidity of the stock market, hence improvement in the trading of shares. Osunubi (2004) explains that a greater total value of shares listed signifies greater market liquidity and lower investment risk which helps better capital allocation in the market and thus can influence economic growth. Osunubi (1998) pointed out that liquidity of the stock market facilitates profitable interaction between stock market and money market in that shares becomes easily acceptable as collateral for bank lending thereby boosting credit and investment. Other studies also show that the more liquid a markets is the faster the economic growth will be.

Atje and Jovonovic (1993), Adajusi and Biekpe (2006), Nowbusting and Odit (2009) and Starkey (2010) have all found that value traded ratio have positive impact on economic growth.

### **(v) Turnover Ratio**

This is the amount of securities traded divided by the market capitalization. It measures how active a market is. It also indicates the trading volume of the stock market relative to size. The turnover ratio measures the values of equity transactions relative to the size of equity market and is an indicator of the efficiency of the financial intermediation (Adegbite, 2008).

A positive relationship is expected between turnover ratio and economic growth. Filler et al (1999) explained that stock market development positively influences growth directly when the turnover ratio is used. Beck and Levine (2004) prefers this measurement of stock market variable because unlike other measures, the numerator and denominator of turnover ratio contain prices. Throughout a direct measure of theoretical defunction of liquidity; high turnover is often used as an indicator of low transaction cost. The turnover ratio, compliment the market capitalization ratio. A large but inactive market will have a large market capitalization ratio but a small turnover ratio. Some models predicts that some countries with illiquid markets will create disincentive to long run investments because it is comparatively difficult to sell one's stake in the firm. In contrast, more liquid stock reduces disincentives to long run investments since liquid markets provide a ready exit option for investors. This can foster more efficient resource allocation and faster growth (Levine, 1999, Bencivenga, Smith and Starr, 1995).

### **(vi) Bank based Empirical Literature**

Of the existing finance-growth empirical literature, is a relatively larger number of studies examining the role of financial intermediation in real activity than market based studies. The crucial findings of king and Levine (1993) after examination of a cross-section of 80 (eighty) countries from 1960 – 1989, to test Schumpeter hypothesis that finance matters – the services of financial institutions stimulate long run growth is viewed as a fundamental piece of empirical research in this area using four banking development measures such as ratio of



liquid liabilities, rates of deposit money bank, domestic assets to deposit, money bank domestic assets plus Central Bank domestic assets, ratio of credit (Excluding Credit Banks) and ratio of credit issued to non-financial private firms as to GDP), the researchers investigated whether financial development improvement could significantly and robustly be associated with greater current and future rate of growth. King and Levine (1993) found in their studies that financial development precedes economic growth and that higher level of financial development are positively associated with faster rates of current and future economic growth, physical capital accumulation and economic efficiency improvement, both before and after controlling for numerous nations and policy characteristics. Results were thus indicative of Schumpeter's hypothesized positive linkage between financial developments and long-run growth in the economy.

Odedokun (1996) found the growth enhancing effects of financial intermediation were predominant in low income LDCs than in high income LDCs and these growths, promoting intermediation effects were equally as significant as other key growth promoting factors such as export expansion, capital formation and labour force growth.

Beck et al (2000) assessed the relationship between financial intermediation and overall economic growth using cross-country instrumental variable estimator and a dynamic generalized method of moment (GMM) panel estimator to control for un-observed country-specific effects, simultaneity bias and omitted variable bias. They found robust positive links between financial intermediation and both real per capita GDP and Total Factor Productivity (TFP) growth.

Odhiambo (2007) investigated the dynamic causal relationship between financial development and economic growth in Kenya, South Africa and Tanzania using integration of Johansen-Juseluis (1990) and Error Based Granger Causality tests to data from 1980 to 2005; findings indicate that all three countries have stable long-run relationships between financial development and economic growth while causality is sensitive to the development measure used.

Aslan (2008) and Kiran et al (2009) used panel co-integration analysis to investigate the effect of financial development on growth and both different studies show that financial development has a significant positive effect on economic growth. The result of the study of Adelakun (2010) also showed that there is a substantial positive effect of financial development on economic growth.

#### **(vii) Market-Based Empirical Literature**

There exists substantially, less empirical research which employed stock market development indicators when examining the finance – growth relationship due primarily to data limitation since fewer established stock markets exist globally relative to banking system. However, the study of Atje and Jovanovic (1993) which examined the role of stock market development in the economic growth process was one of the earlier studies. The researchers analyzed forty countries from 1980 to 1988 employing OLS regression on a cross-sectional model. Using the ratio of annual value of stock market – trade to GDP as the stock market development measure. They found large growth enhancing effects of stock markets on economic development.

Levine and Zevous (1996) building on Atje and Jovanovic study (1993) used instrumental variable approach on pooled cross-country, time series regression of forty – one countries from 1976 – 1993 and found that stock markets development (measured by over all stock market development index) is strongly positively correlated with economic growth. Filer et al (1999) found a strong relationship between financial development and economic growth in twenty – one developing countries from 1977 – 1997. The dynamic panel model was estimated using the instrumental variables approach and revealed that stock market development positively influences growth directly when the turnover ratio is used (that is the ratio of total shares traded value to market capitalization), and indirectly when MCP is used.

Enisan and Olufisayo (2009) examined the effects of stock market development measured by MCP and VALT, on economic growth in seven African countries from 1980 to 2004. The Autoregressive Distributed Lag (ARDL) bounds test and VECM based Granger causality tests were used. They found a long run relationship between stock market development and economic growth.

N'zue (2006) found that a long-run relationship between stock market development and economic growth existed along with uni-directional causality which from financial development to growth. Ezeoha (2009) found a positive significant relationship between stock market development and domestic private investment growth in turn positively influences economic growth in Nigeria.

#### **(viii) Hybrid – Bank and Market Based Empirical Literature**

Hybrid empirical research in this area emerged mostly from the mid 1990s where there was greater available financial system data to be used in computing both bank development and market development indicators for specific countries. Levine and Zeros (1998) empirically investigated whether six measures of stock market development and single banking development measure (i.e PSC) are robustly associated with current and future rate of economic growth in forty nine countries from 1976 to 1993. Employing OLS cross country regressions instrumental variables approach and sensitivity checks. They found a positive link between financial development and economic growth suggestive of an integral role in the growth process for financial factors. Specifically, it was found that stock market development measures (i.e turn and VALT) and the banking system development measure were positively significantly related with current and future rate of economic growth, capital accumulation and productivity growth.

Law (2004) using traditional panel data estimation and panel data estimation (namely the mean group and pooled mean group estimation) approach, when analyzing the finance – growth nexus in fourteen developing countries. They found that over a twenty – four years period from 1978 to 2001, banks and stocks markets are crucial in promoting economic growth with the impact of banking sector more influential compare to stock market development.

Botbol et al (2005) for the period from 1974 to 2004, in Egypt studied the interactions of the bank based and market based financial indicators with two enabling factors (per-capita income and private net resource flows). Banking development measures were found to have a negative impact on TFP growth only becoming when after a certain threshold level of per capita income. Hence the banking system's positive impact on Egypt's economic growth is highly dependent on improvement to per capita income. Stock market development had more prominent effect's on TFP growth particularly when related with private net resource flows. They conclude that over the sample period, the widening of financial development to include the stock market, has positively impacted on TFP and growth in Egypt.

Starkey (2010), investigated the relationship between the financial system and economic growth in seven African countries from 1988 – 2008. The Pedroni panel co-integration technique was used to find the long-run growth relationship. The result tests showed that there are long-run relationship between overall financial development (measured by LOFD and OFD) and economic growth, banking system development (Measured by LPSG) and economic growth and as well as stock market development (Measured by LMCP and LVLT) and economic growth.

Boca (2011) using a data set of 93 countries from 2000 – 2007, applying a fixed effects estimation and two step GMM estimator to examine the impact of financial development on economic growth and how institutional quality affects the role of financial development on economic growth, the results shows that the bank credit has a negative impact on economic growth. However, when interacted with protection of property rights bank credit has a positive impact on economic growth. The results further indicate that stock market capitalization is crucial for economic growth.

In the study of Msuku (2009) on the relationship between financial development and economic growth, in Malawi from 2001 – 2009, the results indicated that both stock market and banking sector are both positively and robustly correlated with future rates of economic growth. The results also showed that the causality between financial development and economic growth runs from financial development to economic growth that is it is supply leading.

#### **The Impact of Financial System On Economic Growth Endogenous Growth Theory**

The relationship between financial development and economic growth has long been established both at theoretical and empirical levels. However, the emergence of new theories of endogenous growth has indeed renewed interest in the potential role of the financial systems in promoting economic growth. Endogenous growth models emerged as an analytical framework for investigating the much proclaimed relationship between financial development and growth. Endogenous growth models demonstrate that in the absence of exogenous technology progress, there can be self sustaining growth and economic growth rates are associated with preference, technology income distribution and institutional arrangements (Pagano, 1993). Hence, these models indicate that finance not only have level of effects (i.e improve level of capital stock and the level of productivity) but also growth effects. (i.e influence the growth rates of capital stock and productivity). In addition, there exist differing specifications of endogenous growth models as distinct to the financial mechanism

included in the model accounting for the of finance. Accordingly, a variety of endogenous growth models have been used provide theoretical analysis for the finance growth relationship, like that of Greenwood and Jovanovic 1991; Bencivenga and Smith 1991; Levine 1991 Boyd and Smith 1992; Pagano 1993, Benci and Wang 1997.

However, a simple “A K” endogenous growth model as specified by Pagano (1993) will be used to discuss the effects of financial development on growth. In this model, output is a linear function of capital such that:

$$Y_t = AK_t \text{ ----- (2.1)}$$

Where Y = Total output in an economy

K = Capital stock, and A is a constant which refers to level of technology in the economy or factor productivity.

This simple “A K” endogenous growth model provides a setting wherein only capital ( $k_t$ ) is used in production and it exhibits constant return to scale capital depreciates at a constant rate of  $\delta$  and there is no population growth so that:

$$K_{t+1} = I_t + (1 - \delta) K_t \text{ ----- 2.2}$$

Where  $I_t$  = gross investment and  $\delta$  is the rate of depreciation

It is also assumed that a proportion of savings, the size of  $1-\theta$ , is lost during the process of financial intermediation. This savings linkage indicate inefficiency in the financial systems thus only the fraction  $\theta$  of the total savings can be used to finance investments. Therefore, in a closed economy, the investment –saving relationship can be described as

$$I_t = \theta S_t \text{ -----2.3}$$

Where  $S_t$  indicates gross saving and  $\theta$  is the proportion of savings available for investment. If ‘S’ denotes the gross saving rate so that

$$S = \frac{S_t}{Y_t} = \frac{S_t}{AK_t} \text{ -----2.4}$$

Given the constancy of A, then the steady state growth rate  $g$  is expressed as

$$\frac{S_t}{Y} = \frac{g}{y} = S_1 Y_t = g$$

$$\text{But } S_t = K_{t+1} \text{ and } \Delta k_t = k_{t+1} - k_t$$

$$\Delta k_t = k_{t+1} - k_t$$

$$\text{But } g = \frac{\theta S_t}{K_t} - \delta$$

Where  $g$  is the steady state growth rate. Expressing the steady growth  $g$  in terms of the amount of capital used in the succeeding period, taking into cognizance the capital depreciation element gives:

$$g = \frac{K S_{t+1} - K_t}{K_t}$$

Using Equation 2.2 gives

$$g = \frac{I_t + (1-\delta) k_t - k_t}{K_t} = \frac{\theta S_t - \delta}{K_t}$$

So, equation 2.5 reveals three ways in which financial development can influence growth :

- I. It may improve [A] The marginal productivity of capital.
- II. It can increase [ $\theta$ ] The proportion of savings channeled to investment and



III. It can enhance [S] the private savings rate.

## RESEARCH METHODOLOGY

### RESEARCH DESIGN:-

Like every longitudinal survey, the study adopted the expos facto research design. In this kind of design, the researcher does not have, the ability to manipulate the data simply because they had already occurred as they are secondary data.

### SOURCES OF DATA

Secondary data were sourced from the CBN statistical bulletins, Nigerian Stock Exchange (NSE) fact books, Securities and Exchange Commission database, from relevant literatures like books, journal and the internet.

- (1) **Study Population:** This consists of all the financial intermediaries' bank and stock markets in Nigeria financial system.
- (2) **Study Sample:** To ascertain the influence of the financial system development on economic growth in Nigeria the study covered data of the capital market and the banking sector in Nigeria spanning over the period of 1980 – 2012. Selection of these data was based on stratified random sampling system.

### Data Analysis Techniques

Co-integration technique was used for data analysis. This approach is made up Ordinary Least Square (OLS) regression ECM and the Unit Root Test (URT). The concept of OLS is often used to describe statistically the behavior of time series (data) that satisfies long-run equilibrium situation, Time series data are often assumed to be non-stationary and thus it is necessary to perform a pretest to ensure that there is a stationary co-integration relationship among variables to avoid the problem of spurious regression. Based on the Error Correction Model Mechanism (ECM) indicated by Johansen (1988), it is necessary for the variables to be of the same order of integration, for the testing of URT, the Augmented Dicky Fuller (ADF) was used. The variable are expected to pas the URT at levels 1(0) or first difference 1(1) before they can be entered for empirical estimation

### Model Specification

$$Y_t = \alpha_0 + \alpha_1 FD_t + \alpha_2 X_t + \mu_t \dots\dots\dots (1)$$

Where:  $Y_t$  = Is the dependent variable RGDP per capita income

$FD_t$  = Is a set of Financial System Development proxies –LL, PSC, MCP, TR, VLT

$X_t$  = Set of control variables: INF, INV, GOV

$\mu$  = Is stochastic term or Error Term

Where: **RGDP** = Real GDP per capita income as the dependent variable

**LL** = Liquid liabilities ratio

**PSC** = Credit to private Section

**MCP** = Market Capitalization

**TR** = Turnover Ratio

<b>VLT</b>	=	Value of shares traded
<b>INF</b>	=	Inflation Rate
<b>GOV</b>	=	Government Expenditure
<b>INV</b>	=	Aggregate Investment

$$\text{RGDP} = \alpha_0 + \alpha_1 \text{LL} + \alpha_2 \text{PSC} + \alpha_3 \text{MCP} + \alpha_4 \text{TR} + \alpha_5 \text{VLT} + \alpha_6 \text{INF} + \alpha_7 \text{GOV} + \alpha_8 \text{INV} + e$$

**e = Error term**

A priori – Expectation =

$$\alpha_1 > 0, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6 < 0 \text{ -- Where inflation rate is only (-) minus sign while others are positive signs (+)}$$

Note that liquid liabilities ratio measures  $M_2$  – Money supply which includes currency plus demand and interest bearing liabilities of the banks and non – bank financial intermediaries divided by GDP. PSC is the private or domestic credit provided by way of loans, trade credit, purchases of non-equity securities, to the private sector divided by the GDP. MCP measures stock market capitalization which is share prices multiplied by total numbers of shares outstanding divided by GDP. Turnover Ratio (TR) stands for the amount of securities traded divided by the total value of listed shares (i.e Market Capitalization). VLT which means total value of share traded during the period divided by GDP. INFR stands for Inflation Rate representing percentage change in consumer price index. Gov represents government final consumption Expenditure divided by GDP. Investment Rate represents Gross Fixed Capital formation divided by GDP.

#### EMPIRICAL ANALYSIS

This section presents and analyses the estimated results based on the model specified in the previous section. In order to conduct a comprehensive dynamic analysis preliminary unit roots tests are performed on the data. The importance of stationarity of time series used in regression borders on the fact that a non-stationary time series is not possible to generalize to other time periods apart from the present. This makes forecasting based on such time series to be of little practical value. Moreover, regression of a non-stationary time series on another non-stationary time series may produce spurious result (Gordon, 2005).

The Augmented Dickey Fuller (ADF) test is employed in order to analyze unit roots. The results are presented only in their levels since it is observed that the series are stationary in levels. Table 1 presents results of tests without taking into consideration the trend in variables. The reason for this is that an explicit test of the trending pattern of the time series has not been carried out. In the result, the ADF test statistic for each of the variables indicates that all of the variables have ADF values that are greater than 95 percent critical ADF value. The implication of this result is that the time series for these variables are time-invariant.

**Table 1 Unit Root Test for Variables in Levels**

Variable	ADF Test Statistic		Order of Integration
	Level	First difference	
LRGDPPC	-2.89	-9.58*	I[1]
LPSC	-2.12	-5.22*	I[1]
LLL	-2.14	-5.53*	I[1]
LTR	-0.74	-7.53*	I[1]
LVLT	-0.85	-4.92*	I[1]
LGOV	-2.01	-2.15*	I[1]
LINF	-2.88	-5.98*	I[1]

\* denotes significance at 5% level.

Having established that the series in the analysis are all I[1] variables, possessing time variant properties, we move on to determine if they are cointegrated. The results from the multivariate cointegration test are presented in Table 2 below. As can be seen from the table, both the  $\lambda$ -max and the trace test statistics indicate that there is at least two significant cointegrating vector among the variables since the hypothesis of no cointegrating vector of up to two (i.e.  $r=2$ ) is to be rejected. The implication of this is that a long run relationship exists among the variables.

**Table 2: Johansen Multivariate Cointegration Tests Results.**

Trace Test			Maximum Eigenvalue Test		
Null Hypothesis	Test Statistic	Critical Value	Null Hypothesis	Test Statistic	Critical Value
$r = 0^*$	194.28	125.62	$r = 0^*$	56.53	46.23
$r \leq 1^*$	137.75	95.75	$r \leq 1^*$	51.22	40.08
$r \leq 2^*$	86.53	69.82	$r \leq 2^*$	42.30	33.88
$r \leq 3$	44.23	47.86	$r \leq 3$	22.17	27.58
$r \leq 4$	22.06	29.80	$r \leq 4$	12.59	21.13
$r \leq 5$	9.47	15.49	$r \leq 5$	8.15	14.26
$r \leq 6$	1.32	3.84	$r \leq 6$	1.32	3.84

\*(\*\*) denotes rejection of the hypothesis at 5% (1%) significance level.

### Empirical Analysis of Financial Development and Economic Growth in Nigeria

In estimating the dynamic relationships between financial system development and economic growth in Nigeria, both the short run and the long run results are reported. This can help us evaluate the long run or steady state conditions as well as the short term behavior of real per capita income growth arising from changes in financial system. Moreover, market capitalization and aggregate investment were dropped in the final output since they did not perform well in the initial estimates. The results of the ECM and the long run models are reported in Table 2 below. In the short run estimates, the financial system coefficients are positive, except that of liquid liabilities ratio. However, only the coefficients of turnover ratio and value of stocks traded in the capital market that pass the significance test at the 10 and 5 percent levels respectively. Apparently, these are the essential variables that can predict the short term behavior of per capita income growth in Nigeria. These coefficients are

positive and suggest that in the short run the behavior of instruments in the capital market have a positive impact on real income levels. The factors have similar coefficients or elasticity (0.33), indicating that 1 percent increases in the stock market in terms of value of stocks or turnover, will stimulate real per capita income by about 0.3 percent in the short run.

The coefficient of the error correction term has the expected negative sign and is significant at the 1 percent level. This shows that long run adjustment following any short term disequilibrium will be achieved. The goodness of fit statistics for the estimates are also quite impressive.

For the long run equation, all the coefficients of the financial system development are significant at the 5 percent level, although that of liquid liabilities is negatively signed. This suggests that in the long run, given that positive changes in the financial system are sustained, there will be growth enhancing effects from the sector. Apparently, loans to the private sector seem to exhibit only long run impacts on economic growth in Nigeria. All the coefficients of the capital market indicators are also significant in the long run model. This also implies that given its short term benefits, continued increase in the capital market may ensure long run growth in the economy.

**Table 3: The Estimated Results**

<b>Dynamic (ECM)</b>			<b>Long Run</b>		
<i>Variable</i>	<i>Coefficient</i>	<i>t-Statistic</i>	<i>Variable</i>	<i>Coefficient</i>	<i>t-Statistic</i>
<i>C</i>	0.019	0.31	<i>C</i>	10.790	11.88
<i>DLPSC</i>	0.265	0.53	<i>LPSC</i>	1.523	3.71
<i>DLLL</i>	-0.566	-0.87	<i>LLL</i>	-1.754	-3.30
<i>DLTR</i>	0.331	1.81	<i>LTR</i>	0.245	2.88
<i>DLVLT</i>	0.336	2.49	<i>LVLT</i>	0.333	4.03
<i>DLGOV</i>	0.042	0.20	<i>LGOV</i>	0.493	3.56
<i>DLINF</i>	0.100	0.90	<i>LINF</i>	0.152	1.84
<i>ECM(-1)</i>	-1.415	-7.39			
$R^2 = 0.734 \quad F = 9.68 \quad D.W. = 1.99$			$R^2 = 0.52 \quad F = 3.12 \quad D.W. = 2.28$		

## Hypothesis Testing

The results from the long run equation show that all the coefficients of the financial system development are quite significant at the five percent level. This suggests therefore that the null assumption that liquid liabilities ratio has no significant influence on economic growth in Nigeria as null hypothesis is thus rejected, and the alternate accepted. Market capitalization has significant influence on economic growth in Nigeria, alternate hypothesis accepted and the null hypothesis rejected. Turnover ratio exerts significant influence on economic growth. Thus alternate hypothesis accepted while the null rejected. Finally, the value of shares traded shows influence on economic growth. The alternate hypothesis is thus accepted while the null hypothesis rejected.

## Findings

The results reveal that market capitalization has a positive significant impact on economic growth both in the short run and long run (with the impact more pronounced); that the level of loan to the private sector proxy by PSC, by banks, has a strong positive impact on economic growth; that turnover ratio (TR) and market capitalization (MCP) are the most significant of all financial development measures which influence economic growth. That value of share traded on the floor of the stock market, influences economic growth; that previous investments has long run impact positively on the economic growth and in the short run impact negatively on economic growth. That inflation and government expenditure are strong policy variables in the long run.

## CONCLUSION

In this study, we sought to investigate the effect of financial development on economic development in Nigeria. A dynamic framework was devised for the analysis using an ECM model with data sourced for both the money and capital market variables covering the period 1980 to 2012. Empirical findings show that the financial system is capable of promoting both short run and long run growth effects in Nigeria.

Two implications are evident from the short run results. First that capital market seems to be more effective in stimulating short term economic growth than the money market. The results reveal that none of the money market variables is significant in the ECM estimates. Second, within the capital market, the section for stocks and equities appear to be more relevant for short run income growth purposes. Seetanaha, Sawkut and Seetanah (2010), Muhammed, Nadeem and Liaquat (2008) and Alajekwu and Achugbu (2012) also found similar results for a group of developing economies and for individual countries, including Nigeria. This is actually plausible since more private individuals are disposed to equities and stocks rather than bonds or the elusive treasury bills which seem to be more of a preserve of banks and other financial institutions. The income growth delivery of the capital market within a shorter period will be more reflected in the stock market activities.

Moreover, the position that can be drawn from the empirical analysis is that in essence, the money market section of the financial market may be considered as a tool for long run growth while the capital/stock market section can be used to pursue short run growth goals.

## Recommendations

Based on the findings of this study, here are the following recommendations:

1. Aggressive and vigorous strengthening of the financial sector by the deepening of the stock market, and increasing the demand for and supply of securities is imperative.
2. There should be reduction of the costs of intermediation and floating of new issues.
3. The ongoing financial sector reforms should be aggressively pursued and sustained in the stock market.
4. Adoption of policy/measures to improve institutional and legal framework for stock market operation and security ownership should be promoted.
5. There is the need to improve the infrastructure of trading system of stock market via improving stock market operations, allowing stocks to trade more frequently and speedy up the purchase and sale of stocks thereby enhancing market liquidity and efficiency.
6. Investor's confidence in the capital market should be sustained by the improvement of security and legal frame work which will likely stimulate information disclosure and reduce misrepresentation and other financial malfeasances, leading to improved investors confidence building, thereby enhancing market participation, investment and economic growth stimulation.
7. Policies and measures should be adopted to foster a well regulated transparent banking system with high level of competition.
8. Efficient prudential supervision of money markets in Nigeria with high emphasis on surveillance measures which are indeed germane to maintaining and sustaining the soundness and safety of the banking sector should be done and
9. Above all, the business environment should be more friendly by the provision of the basic infrastructures that will drive businesses to thrive in order to promote and sustain economic growth in Nigeria.

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